

Applicant : Jian Bai, Steven M. Fischer and J. Michael Flanagan  
Appl. No. : Unknown  
Examiner : Nguyen, Kiet T.  
Docket No. : 10980322-8

### Amendments to the Claims

Please cancel claims 1-33 and insert the following new claims 34-50.

1-33. (Cancelled)

34. (New) A method to conduct a mass analysis of a biomolecule comprising:

introducing a matrix containing biomolecule analyte into an ionization source maintained at a ambient pressure greater than 100 mTorr,

ionizing the biomolecule analyte with pulsed laser energy to desorb the analyte and produce ions of the biomolecule analyte,

directing the transport of biomolecule analyte ions toward a passageway, wherein the biomolecule analyte ions undergo cooling during transport.

35. The method of claim 20 comprising transporting the biomolecule analyte from the ionization source to a mass analyzer operating at a pressure less than about  $10^{-5}$  Torr.

36. (New) The method of claim 34 wherein the biomolecule analyte and the matrix are contained in a flowing liquid sample.

37. (New) The method of claim 34 wherein the biomolecule analyte and the matrix are contained in a static liquid sample.

38. (New) The method of claim 35 wherein the flowing liquid sample is the effluent from an HPLC, CE, or syringe pump.

39. (New) The method of claim 34 wherein the biomolecule analyte is selected from the group consisting of DNA, RNA, lipid, peptide, protein, carbohydrate, and fragments thereof and combinations thereof.

40. (New) The method of claim 37 wherein the protein is digested.

41. (New) The method of claim 34 wherein the matrix or biomolecule analyte is in a microtitre plate, a microchip array, a thin layer chromatography plate, an electrophoresis gel, or on a membrane.

42. (New) The method of claim 34 wherein the biomolecule analyte is introduced into the ionization source at a pressure selected from the group consisting of between 100 mTorr and 1 Torr, between 1 Torr and 760 Torr and between 100 mTorr and 760 Torr.

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43. (New) The method of claim 34 wherein the ionization source is maintained at a temperature between 30° C and 100° C.

44. (New) The method of claim 34 further comprising the step of transporting the biomolecule analyte ions through a passageway integrally connected to the ambient pressure of the ionization source and a vacuum of a mass analyzer.

45. (New) The method of claim 42 wherein the step of transporting the biomolecule analyte ions is comprised of passing the ions through an ion transport guide.

46. (New) The method of claim 43 wherein passing the ions through an ion transport guide includes passing the ions through an ion optic selected from the group consisting of a multiple ion guide, an orifice, a capillary, a skimmer, and a lens and combinations thereof.

47. (New) The method of claim 42 further comprising the step of performing a mass analysis.

48. (New) The method of claim 34 wherein the step of performing a mass analysis is achieved with a mass analyzer selected from the group consisting of ion trap, quadrupole, ion cyclotron resonance, Fourier transform ion cyclotron resonance, magnetic sector, electric sector, and quadrupole time-of-flight and combinations thereof.

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Notes:

Claims 34-48 are pending in this application. Claims 1-33 have been cancelled without prejudice. New claims 34-48 are added in this Amendment.

Conclusion

Should the Examiner have any questions or comments, the undersigned can be reached at (949) 567-6700.

The Commissioner is authorized to charge any fee which may be required in connection with this Amendment to deposit account No. 50-1078.

Respectfully submitted,

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By: 

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